

In the claims:

Amend the claims as follows:

- 5 1. (Currently amended) A method ~~Method~~ for determination of stand attributes by means of a laser scanner and images, in which a point cloud with three-dimensional information about the target points and describing the stand is produced by means of a laser scanner, comprising: ~~characterized in that~~
- 10 a) overlapping images are produced by aerial or terrestrial photography,
- b) a denser point cloud with more target points with three-dimensional information is produced by densifying the point cloud produced by the laser scanner with information from the overlapping images produced by the aerial or terrestrial
- 15 photography, and
- c) determining the stand attributes ~~are determined~~ by means of the densified point cloud.
- 20 2. (Currently amended) The method according to claim 1 wherein ~~Method of claim 1, characterized in that~~ after step a), the point cloud produced by laser scanning and the image information are combined to belong to the same target.
- 25 3. (Currently amended) The method according to claim 1 wherein ~~Method of claim 1, characterized in that~~ the three-dimensional information of the point cloud produced by means of a laser scanner is formed of three-dimensional coordinates for the target points.
- 30 4. (Currently amended) The method according to claim 1 wherein ~~Method of claims 1-3, characterized in that~~ for step c), the points measured from the surface of the terrain and the points measured above the surface of the terrain are distinguished from the point cloud produced by laser scanning, and three-

dimensional points are added close to those points that are produced by a laser scanner and that correspond to points measured above the surface of the terrain.

- 5      5. (Currently amended) The method according to claim 1 wherein  
~~Method of claims 1-4, characterized in that~~ in order to  
determine three-dimensional coordinates for the target points  
the data achieved from the laser measurements and the image  
information of the aerial photography are calculated into the  
10      same coordination system.
  
6. (Currently amended) The method according to claim 1 wherein  
~~Method of claims 1-5, characterized in that~~ in step b), the  
three-dimensional target coordinates of the additional points  
15      are determined from the overlapping images produced by aerial  
photography by means of photogrammetric methods.
  
7. (Currently amended) The method according to claim 1 wherein  
~~Method of any of claims 1-6, characterized in~~  
20      ~~that~~ step c) is performed by means of a pattern recognition  
method, by determination of models describing the crowns of  
the stand and the terrain, or by means of coordinate  
information.
  
- 25      8. (Currently amended) The method according to claim 1 wherein  
~~Method of any of claims 1-7, characterized in that~~ such a  
number of target points is applied that individual trees and  
groups of trees are discriminated.
  
- 30      9. (Currently amended) The method according to claim 1 wherein  
~~Method of any of claims 1-8, characterized in that~~ in step  
a), brightness values are produced for the points in addition  
to the three-dimensional coordinates by means of a camera or  
spectrometry.

10. (Currently amended) The method according to claim 1  
wherein ~~Method of any of claims 1-9, characterized in that~~ the  
laser scanner material used for the creation of a denser point  
cloud has several pulses modes or profile data ~~(full waveform~~  
5 ~~data)~~.

11. (Currently amended) The method according to claim 1  
wherein ~~Method of any of claims 1-10, characterized in that~~ a  
three-dimensional presentation of the stand height ~~(canopy~~  
10 ~~height model)~~ is achieved by calculating, from the denser  
point cloud, the difference between a crown model  
corresponding to the upper parts of the stand and a digital  
terrain model corresponding to the surface of the terrain.

12. (Currently amended) The method according to claim 1  
wherein ~~Method of any of claims 1-11, characterized in that~~  
an anisotropy correction for the brightness values of  
an image is done for individual trees or groups of trees by  
means of the denser point cloud by using a crown model created  
20 by means of the denser point cloud.

13. (Currently amended) The method according to claim 1  
wherein ~~Method of any of claims 1-12, characterized in that~~ a  
change in the stand can be calculated by means of denser point  
25 clouds or by means of surface models corresponding to them  
achieved at two different time points, the change consisting  
of for instance a height or breadth growth, thinnings and  
fallen trees.

14. (Currently amended) The method according to claim 1  
wherein ~~Method of any of claims 1-13, characterized in that~~  
the identification of individual trees or groups of trees  
~~(determination of location or crown contours)~~ is done by using  
the denser point cloud, the height model, surface models,  
35 intensity data of the laser scanning, profile data and/or

brightness values of the images by means of a known pattern recognition method.

15. (Currently amended) The method according to claim 1  
 5 wherein Method of any of claims 1-14, characterized in that  
 the identification of individual trees or groups of trees  
~~(position or contour)~~ takes place by using images and the  
 height for a desired tree is achieved by means of denser point  
 cloud material.

10  
 16. (Currently amended) The method according to claim 1  
wherein Method of any of claims 1-15, characterized in that  
 old inventory information, earlier images and/or laser  
 materials is used for evaluation or updating of stand  
 15 attributes.

17. (Currently amended) The method according to claim 1  
wherein Method of any of claims 1-16, characterized in that  
 the tree geometry and/or the delineation of the tree is  
 20 determined by means of sample points achieved inside the area  
 restricted by the tree either two-dimensionally ~~(cross-~~  
~~section)~~ or three-dimensionally in order to identify the tree  
 species or for modeling of the stand.

25 18. (Currently amended) The method according to claim 1  
wherein Method of any of claims 1-17, characterized in that  
 the attributes of individual trees or groups of trees, which  
 are achieved by analyzing the canopy height model, are the  
 location of the trees, age, height, crown diameter, crown  
 30 delineation, stem diameter, quality of timber wood, tree  
 value, basal area, crown closure percentage, development  
 class, tree species, stem volume, and/or stem number per area  
 unit and statistical attributes that ~~can~~ are be derived by  
 means of this information.

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19. (Currently amended) The method according to claim 1  
wherein ~~Method of any of claims 1-18, characterized in that~~  
the stem diameter of the tree can be derived by means of the  
mean diameter of the crown or the tree height and the mean  
5 diameter of the crown and ~~possibly~~ by making use of rules  
based on knowledge and possible for each tree species  
separately.
20. (Currently amended) The method according to claim 18  
10 wherein ~~Method of claim 18, characterized in that~~ the stem  
number is determined as a number of crowns determined from a  
image or point cloud.
21. (Currently amended) The method according to claim 1  
15 wherein ~~Method of any of claims 1-18, characterized in that~~  
the crown coverage percentage is defined as the relation  
between the area covered by the crowns and the whole surface.
22. (Currently amended) The method according to claim 1  
20 wherein ~~Method of any of claims 1-21, characterized in that~~ in  
addition to attributes of individual trees or groups of trees  
and statistical data for these, also a stem number and the  
crown coverage percentage of a stand that ~~can be~~ is seen from  
above, are defined for a larger tree group, and this  
25 information ~~can be~~ is used in the estimation of attributes for  
sample plots and stands.
23. (Currently amended) The method according to claim 1  
wherein ~~Method of any of claims 1-22, characterized in that~~  
30 the stand volume is completely or partly defined by means of  
the mean height of the stand and the crown coverage  
percentage, ~~(the crown part of the total area)/basal area~~.
24. (Currently amended) The method according to claim 1  
35 wherein ~~Method of any of claims 1-23, characterized in that~~

the definition of stand attributes is performed by means of a computer program.

25. (Currently amended) A computer ~~Computer~~ program for the  
5 determination of stand attributes from information achieved by  
means of a laser scanner and images and in which there is  
produced a point cloud with three-dimensional information  
about the target points and describing the stand, comprising:  
~~characterized in that~~ with the program,  
10 a) there is produced a denser point cloud with more target  
points and three-dimensional information by densifying the  
point cloud produced by the laser scanner with information  
from overlapping images produced by aerial photography, and  
b) the stand attributes are determined by means of the denser  
15 point cloud.

26. (Canceled)